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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,454	12/05/2003	Andrew James Seeley	M03B318	1037
7590 09/07/2007				
The BOC Group, Inc. Legal Services-Intellectual Property 575 Mountain Ave. Murray Hill, NJ 07974				
			EXAMINER WARTALOWICZ, PAUL A	
			ART UNIT 1754	PAPER NUMBER
			MAIL DATE 09/07/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/729,454

Applicant(s)

SEELEY ET AL.

Examiner

Paul A. Wartalowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-29 is/are pending in the application.
- 4a) Of the above claim(s) 14-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 23-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (5632964) in view of Otsuka et al. (6749819) and Smith et al. (U.S. 5213767).

Ishii et al. teaches a method for cleaning exhaust gas which contains both ammonia and metalorganics such as trimethyl gallium and trimethyl indium including: first treating the metalorganic components with a first agent which can be copper on a soda or soda lime carrier and can be in the form of a heated fixed bed and second treating with an ammonia decomposition catalyst of nickel on a ceramic carrier with heat to decompose the ammonia into nitrogen and hydrogen (Column 1, lines 36-44; Columns 2-3, lines 66-5 respectively; Column 3, lines 27-30 and 62-65; Column 4, lines 7-28 and 51-53; Columns 6-7, lines 54-7 respectively; see also sole figure).

Ishii et al. fail to teach a zone comprising a bed of metal and a bed of metal oxide heated in a range of 200-700°C to cause metalorganic vapor to decompose.

However, Ishii et al. teach treating trimethyl metals and silane (col. 1).

Smith et al. teach a process for converting hazardous gases by chemical reactions into gaseous products (col. 1, lines 4-12) wherein gases such as silane and trimethyl borate (col. 1) are decomposed in a first stage of granular silicon (col. 2-3) and a second stage of granular lime (col. 2-4) at a temperature of 200-550°C (col. 2, 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention to provide converting hazardous gases by chemical reactions into gaseous products (col. 1, lines 10-17) wherein gases such as silane and trimethyl borate (col. 1) are decomposed in a first stage of granular silicon (col. 2, 4) and a second stage of granular lime (col. 2, 3, 5) at a temperature of 200-550°C (col. 2, 3) in Ishii et al. in order to treat substantially similar hazardous gases (gases that poison the ammonia decomposition catalyst) produced in a substantially similar process of producing semi-conductors as taught by Smith et al.

Ishii et al. teaches an embodiment wherein the first and second treating steps are in separate chambers, but does not teach an embodiment wherein the first and second treating steps occur in a single chamber sub-divided into two zones.

It would have been obvious to modify the process of Ishii et al. by combining the separate chambers into a single chamber having two portions (one for each treating agent) because making each treating agent integral to single treatment chamber would be obvious to one of ordinary skill in the art (*In re Larson*, 144 USPQ 347 (CCPA 1965)), without any undue experimentation, particularly in light of the fact that benefits such as economy of scale could be recognized by doing so. It would further be obvious

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in light of the state of the art as evidenced by Otsuka et al. (6749819) which demonstrates by way of Figures 2 (A) and (B) that one of ordinary skill in the art would recognize each physical arrangements as a known and obvious variant of the other.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571) 272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul Wartalowicz
September 1, 2007



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